



MICHIGAN DEPARTMENT OF NATURAL RESOURCES – www.michigan.gov/dnr
Wildlife Division

FGDC Geospatial Metadata for 2018 Deer Management Units (rev. 2018 Nov. 20) Set of Layers

By M. Strong, DNR Wildlife Division, Lansing, MI.

Description: This file is a shorter summary of longer FGDC geospatial data metadata with important comments, constraints, and qualifiers to accompany geographic information system files (ESRI format shapefile or layer). See the longer more-complete documentation of this data set's metadata, approximates and follows the FGDC and NBII Metadata Standards at primary required levels, where applicable and appropriate; additional details added if needed. - - **NOTE 2018 Nov. 20, the complete metadata file is corrupt and being fixed asap. -Marshall Strong**

BECAUSE OF CORRUPT FGDC METADATA FILE, this is a partially complete but best as-is information (rather complete FGDC content in most sections of FGDC standard).

Subject-specific information, summarized:

The official and legal representation of all units or boundaries from the DNR are as defined in text in the Michigan WCO (WCO; online off www.mi.gov/dnr/laws); if any differences (which can occur at small scales) in GIS polygons, lines or points which are for-convenience tools, then the correct official representation is the official legal text in the Mi.WCO. Best efforts and reasonable due-diligence are used to create our data

Michigan DMUs, particularly or exclusively for lower the peninsula units, can be overlapping units where official and defined units may exist but not have any quota or used for any hunting (public or private land) in a year yet those units are retained in the data layer because they are units defined in the Michigan WCO(online off www.mi.gov/dnr/laws). As one example: DMU 011 for Berrien County (in southwest lower peninsula) is defined and so is DMU 311 (which is 3 counties including Berrien County) as well as DMU 486 (much of the southern lower peninsula counties including Berrien County DMU011 and the 3-county DMU 311); not all of these are open units with quota set for public, private or both hunting options or seasons. A user needs to use these data with other DNR online deer season information, to completely understand the applicability of these defined units (for example in browse-graphic PDF of all State units, DMU486 is not shown because although was defined it had no quota and wasn't open in any season * condition combination; likewise for DMU011 and some other units).

Data layer is in meters units and area measures in square meters.

Data projection/datum is WGS84 and Michigan Georeference Projection; see <http://www.michigan.gov/maps> and <http://www.michigan.gov/dnr/maps> (<http://gis-midnr.opendata.arcgis.com>) for more information on MGR projection, etc.

For subject-specific questions on this GIS data layer, contact: **Marshall Strong**, Wildlife Mapping & Geotechnology Program Specialist, (strongm@michigan.gov ; 517-256-5397); Wildlife Division - Planning and Adaptation Section - Management Information Unit; State of Michigan - Department of Natural Resources (DNR; www.mi.gov/dnr ; DNR-Wildlife@michigan.gov ; 517-284-WILD(9453)), Constitution Hall (N tower, 4th floor, NW), 525 West Allegan Street, PO Box 30444, Lansing, MI 48909-7944 USA.
... plus later FGDC content sections have more completed contact information.

<sections 1.1 to 1.6+ will be updated later, including any missing sections from complete metadata below>

(1.7) *Access_Constraints:*

Warnings, Disclaimers, and Notifications for Access to these metadata and data:

This portion of the documentation is to provide legal statements, restrictions, and prerequisites for accessing the data set, including those to assure protection of privacy, assure protection intellectual property, assure protection of those involved (data developers, provider and potential end users), provide and explain any special restrictions or limitations on obtaining the data set, or provide other reasonably-expected information needed by potential end users when considering accessing these metadata and described data.

There are several important notices, warnings, access, and use statements for any potential user of these data. These constraints and warnings are to assure protection of data, State property (including physical, digital and intellectual property), and protect both the developers and potential end users by appropriately discussing these data and data development factors. Some of these same warnings may be duplicated in sections of longer documentation (if exists); however, use care in reading the entire metadata even if it looks similar in case detail within the statements is indeed different.

It is assumed any users of these data have read all metadata or summary files provided with these matching data resources. These stated constraints and warnings are a combination of official MDNR policy statements at the time this metadata was last updated, State of Michigan statements, conventional or metadata-format required technical statements, and added explanatory and geospatial-related qualifiers provided for users of any geospatial data included with this file. These data comments are not specific to just geospatial (location) details, but also relate to attributes and other data factors of these data, documented by these metadata comments. These warnings and statements have been carefully gathered, and significant attempts made to present and explain them for potential users. If you disagree with any of these warning comments, then do not use these data or those data resources packaged with this metadata.

A general data liability disclaimer applies: Data is considered as-is at the time this metadata was written or last updated. These data are not for cadastral or legal use, even after considered published. Users should be aware that in comparison with other data sets for the same area, inaccuracies and inconsistencies may be identified due to (i.) previous data creation methods, (ii.) changes mapping conventions over time, (iii.) changes in technology, (iv.) changes in understandings of what details need to be documented, and (v.) other such factors impacting data creation, documentation, and packaging product data and documentation.

Best efforts have been made with both the details in this metadata documentation, with the matching data described in this metadata, with the packaging, and with access and download preparations for both these metadata and the companion data, including other documents or digital files packaged with the project data.

Regarding downloading: Downloading and/or use of these data signifies a user's agreement to comprehension and compliance with all stated constraints and warnings in this metadata/summary file. Make certain all portions of any metadata are read and clearly understood before using these data in order to protect both user and data-developer interests. Review of this metadata information doesn't limit a potential user's access to consider the warnings and restrictions; any downloading or use of the data partnered with these metadata details means you as a user agree to all terms and conditions stated within these metadata and with accessory files included with those data referred to by these metadata.

Regarding updates or changes: These data resources may be updated and the related data layer(s) could be updated or changed without notice. If interested in using these data over time, it is strongly recommended that users repeatedly investigate for any possible updates of these data, and that newer data are directly acquired from MDNR Wildlife staff, not

indirectly through other sources which may have modified the data in some way. It is also strongly recommended that careful attention be paid to the contents of metadata and any other files associated or provided with these data.

Be aware, as is possible in all government situations, other constraints may have been required and added since the compilation and completion of this metadata summary file. Every effort has been made to provide users the best information, including in these metadata details; however, updated data and metadata information may have changes. Look for possible changes to ensure you can gain the best possible use of these data and metadata.

(1.8) *Use_Constraints:*

Warnings, Disclaimers, and Notifications for Use of these metadata and data:

This portion of the documentation is to provide legal statements, restrictions, and prerequisites for using the data set, including those to assure protection of privacy, assure protection intellectual property, assure protection of those involved (data developers, provider and potential end users), provide and explain any special restrictions or limitations on using the data set, or provide other reasonably-expected information needed by potential end users when considering using these metadata and described data.

There is no expressed warrantee; the State of Michigan, the Department of Natural Resources (MDNR) nor any employees shall be held liable for any portions of these metadata or companion data, or for improper or incorrect use of any information provided, data described and/or contained herein. Although these data have been processed successfully on computer systems at the MDNR and the MDNR Wildlife Division (WLD), no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general, scientific, or legal purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. These data are provided "as is" and without any express or implied warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose. If other files are provided with these data, see those associated files for more information including some details which may not be summarized in these metadata.

The companion data are not legal information or documents and are not to be used as such. These data involve geographic and attributed representations which might be related to property representations, jurisdictional ranges, or enforcement-related regulations and rules. Because these issues are critical for both data developers and potential end users, these are carefully explained here.

The information presented or in these data may represent some details which might be relevant to geographic areas, land, land use, rules and regulations, or other natural resources. However, be aware and avoid making incorrect assumptions or misunderstandings of applicability of these data, using these data beyond intended purposes or scales, etc. These documentation and data products are a tool issued to assist or for convenience on this specific subject with specific applicable conditions.

Regarding representations, implied official geographic representations which might be seen in these data, or such information which might be possibly misunderstood by potential end users: The boundary outline information contained in these data are for identification of regional areas on larger scales, and is not a legally or notarized survey system nor judicially recognized property line system. The boundary outline information contained in these data are based on the best available Public Land Survey System (PLSS) data for town, range and section level land ownership frameworks for the State of Michigan (at the time these data were developed); however, newer information may be provided since these data were developed and, if so, may be available on the Department of Technology, Budget and Management (DTMB), at the Michigan Geographic Data Library (MGDL) website at <http://www.mcgi.state.mi.us/MGDL> and this internet location includes links to other State governmental archives for data beyond the MDNR and DTMB.

These data do include polygons and attribute information which are similar or related to representations of PLSS, property boundaries, county or State boundaries, etc. However the context of these data are not intended to represent those possible property or jurisdictional related factors, but are instead a frame for observational data collected within those boundaries. Beware re-purposing these data incorrectly, beyond intended purposes of data collection or use.

Regarding jurisdictions, implied jurisdictions which might be seen in these data, or such information which might be possibly misunderstood by potential end users: There is not any attempt, in either these data, metadata, data design, products or documentation of these data, to define the limits of the proprietary jurisdiction of any Federal, State, or local government, or to establish the geographical scope of the regulatory programs of such government agencies. Governmental agencies means any Federal or adjoining Nation, State (including adjoining States), local government or municipality (meaning a county, township, city, village), governing body (meaning the board, council, commission, or body in which the policy-making powers of the local government are vested), public agency (meaning a single- or multi-purpose public body, etc.), authority (meaning an authority formed by according to the Michigan Municipal Partnership act or other official State recognized authority), Michigan Indian tribe (meaning a Federally recognized Indian tribe, band, nation, or other organized group or community of Indians that is recognized as eligible for services by the United States Secretary of the Interior because of their status as Indians, and that has trust lands located within this State); all defined as per (a.) the Michigan Compiled Laws, Municipal Partnership Act (Michigan Compiled Laws, Municipal Partnership Act, Act 258 of 2011, Section 124.112 Definitions, Sec. 2, Item J., Eff. Dec. 14, 2011 ; accessed online at “ <http://legislature.mi.gov/doc.aspx?mcl-28-602> ”); (b.) the Michigan Compiled Laws, Commission on Law Enforcement Standards Act (Michigan Compiled Laws, Commission on Law Enforcement Standards Act, Act 203 of 1965; Section 28.602 Definitions; Sec. 2, Item J; Eff. Oct. 12, 2004; accessed online at “<http://legislature.mi.gov/doc.aspx?mcl-28-602> ”); and (c.) the Michigan Compiled Laws, Municipal Sewage and Water Supply Systems Act (Michigan Compiled Laws, Municipal Sewage and Water Supply Systems Act, Act 233 of 1955; Section 124.281 Definitions; Sec. 1, Item C and D; Eff. Dec. 14, 2009; accessed online at “ <http://legislature.mi.gov/doc.aspx?mcl-124-281> ”).

Potential users must consult other more appropriate information resources if need to relate these data or the represented geographic extents to legal representation of properties, formal boundaries, or other depictions of any official extents (i.e. relate these data to an official county extent). Property ownerships may have changed since these data were created and updated. All potential users should be aware that there could be instances where the represented boundaries or ownership (as may be seen in these data) may be quite different than actual ownership (for the real-world, current situation). Specific geographic areas could be out-of-date due to changes in the real-world since these data were developed and packaged.

Regarding apparent or implied regulations, rules, enforcement-related information which might be seen in these data, or such information which might be possibly misunderstood by potential end users: These documentation details and these companion data are not a set of rules and regulations (either in excerpt or complete), and may not be as immediately updated as current legislation and rules relevant to these data. These documentations or data products are neither legal notice nor a collection (either in excerpt or complete) of possible rules, regulations and laws which might be valid and applicable for the represented geographic areas, subjects or context.

Regulatory rules and management authority has been conferred on the MDNR by section 504 of 1994 Public Act 451, Michigan Compiled Laws 324.504; the official Michigan Compiled Laws are accessible online at “ <http://legislature.mi.gov/doc.aspx?mcl-324-504> .” The official and full legal representations of any enforcement-related information is those official text documentations such as Public Laws, Acts of government, amendments to the Michigan Wildlife

Conservation Orders, Director's Orders, or other appropriate legal code. It is possible that these data contain lines or polygons which could be considered direct representations of enforcement-related areas (townships, State extent, etc.); however, these polygons are data tools to assist. A complete listing of regulations and legal descriptions are available on the MDNR website at <http://www.michigan.gov/dnrlaws> and this internet location includes links to other State governmental archives for data beyond the MDNR.

Regarding plans or activities of potential users, based on these metadata and companion data: Potential users intending to engage in activities involved within or adjacent to lands controlled by private landowners or properties controlled by any government agencies (as defined earlier in these warnings) should seek appropriate permissions and additional information before planning any activities. These data do not provide sufficient details to define land extents, land use or access issues, extents concerning specific regulations, specified agency regulatory programs, proprietary jurisdictions that may affect activities, etc. Do not misunderstand the existence of observational data within a specific geographic area, within these data, as permission for potential end users to go into portions of that geographic area.

Potential users of these data should contact appropriate agency staff and should discuss the current ownership, rules and regulations, and other situations with local knowledgeable contacts before engaging in any activities which could be unlawful, illegal, violations or cause various possible repercussions, penalties, civil or criminal infractions, fees or fines, and/or jail-time for potential end users.

It is the responsibility of each individual, as a user of public lands, to ensure they are informed of all current rules and regulations relevant to planned activities before doing those planned activities. [Contact the MDNR offices](#) if you have questions or to verify regulations relating to possible activities before engaging in those activities. A complete listing of regulations and legal descriptions are on the MDNR website www.michigan.gov/hunting under "Laws & Legislation" or provided within the Michigan Wildlife Conservation Order, which is available online at www.michigan.gov/dnrlaws.

Regarding rights, copyrights, etc.: The MDNR retains all rights to these metadata, data, physical and conceptual materials, and related information products. These data are not to be repackaged or sold by other parties, as owned by the MDNR. The MDNR, in public trust for the citizens of Michigan, retains the Rights, Copyrights, and all other expressed or implied legal rights over these data, these information resources or tools, etc.

Use of trade names or commercial product names are solely for the purpose of providing specific information, reporting data development environments and methods, and does not imply blanket recommendation or endorsement by the Michigan State Government, the MDNR, the Wildlife Division, or any associated staff.

Assistance and development of these metadata and/or companion data: The MDNR and the MDNR Wildlife Division do consider possible project cooperation opportunities. The MDNR does work with many agencies and cooperators on projects using MDNR information resources, ideas, etc. as part of continued mission and goals. However, any cooperative project idea or relationship would require more consideration, discussions, a data use agreement procedure, and other details to be developed and finalized. If interested, discuss the situation with the data contact on this metadata document.

Lastly, if you are uncomfortable with these Access and Use Constraints, then do not use these data.

(1.9) *Point_of_Contact = Contact_Information in Section 10:*

(1.9.1) *Contact_Person_Primary:*

(1.9.1.1) *Contact_Person:* Mapping and Geotechnology Program Specialist, currently M. Strong

- (1.9.1.2) *Contact_Organization*: State of Michigan, Department of Natural Resources (MDNR), Wildlife Division
- (1.9.2) *Contact_Organization_Primary*: State of Michigan, Department of Natural Resources (MDNR), Wildlife Division
- (1.9.3) *Contact_Position*: Mapping and Geotechnology Program Specialist, currently M. Strong
- (1.9.4) *Contact_Address*:
- (1.9.4.1) *Address_Type*: mailing address
 - (1.9.4.2) *Address*: PO Box 30444
 - (1.9.4.3) *City*: Lansing
 - (1.9.4.4) *State_or_Province*: MI
 - (1.9.4.5) *Postal_Code*: 48909-7944
 - (1.9.4.6) *Country*: United States of America
- (1.9.5) *Contact_Voice_Telephone*: 1-517-284-WILD (1-517-284-9453)
- (1.9.5b) *Contact_Voice_Telephone (alternate/direct line)*: 1-517-256-5397
- (1.9.6) *Contact_TDD/TTY_Telephone*: 711 (Michigan Relay Center)
- (1.9.7) *Contact_Facsimile_Telephone*: 1-517-241-0015
- (1.9.8) *Contact_Electronic_Mail_Address*: DNR-Wildlife@michigan.gov
- Those interested can also see the MDNR website online at <http://www.michigan.gov/dnr> for more information, and to contact the Division using additional, current electronic methods.
- (1.9.9) *Hours_of_Service*: recommended: Universal/GMT 12noon to 8pm or United States' Eastern Standard Time 8am to 5pm
- (1.9.10) *Contact_Instructions*: No significant instructions, other than:
- (i.) please have patience as may take a couple days to reply back to questions, depending on those methods used (email, etc.) to contact our organization; and
 - (ii.) please refer to this data set by its proper title or by a more descriptive data set description along with any other relevant details (like publication date), in any message or with questions.
- (1.10) *Browse_Graphic*: A graphic may be found within the online version or within hardcopy of the 2018 Deer Antlerless Digest or 2018 Michigan Hunting and Trapping Digest, and annual aid for hunters, which includes simplified text definition and a simple map showing line. Online version of the digest might be found of a link off webpage at <http://www.michigan.gov/hunting> or <http://www.michigan.gov/deer> .
- (1.11) *Data_Set_Credit*: Michigan Department of Natural Resources, Wildlife Division, held for the public trust of the citizens of Michigan. The layer is the product of many staff working in an official public sector capacity.
- (1.12) *Security_Information*: (not applicable)
- Not applicable as there are no access, use or handling restrictions imposed on the data set because of national security, privacy, or other concerns appropriate to limit data set access/use, or to define in this portion of the metadata.
- (1.13) *Native_Data_Set_Environment*:
- The data set was developed on and is compatible with (i.) IBM-format compatible computer; (ii.) operating system for Microsoft Windows version XP Professional and version 2000 for servers (from 1993-2006; see company details on the internet at <http://www.microsoft.com> for more information) and Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3, then Microsoft Windows 8.x; (iii.) database management software Microsoft Access 2003 program, build 11.8321.8341, service pack 3 (from 1992-2003; see company details on the internet at <http://www.microsoft.com> for more information) and Microsoft Access 2010 version 14.0.6123.5001; (iv.) geographic information system software ESRI ArcGIS9.3.1 service pack 2b and ESRI ArcGIS10.1.0.3035 (see company details on the internet at <http://www.esri.com> for more information). Documentation was generated using software Microsoft Word 2003

program, build 11.8348.8341, service pack 3 (from 1992-2003; see company details on the internet at <http://www.microsoft.com> for more information) or later and the documentation may have been converted to be compatible with Adobe PDF format (see company details on the internet at <http://www.adobe.com> for more information). Any other provided files with the compiled data set are compatible with plain ASCII text viewer formats or internet browser formats (i.e. txt, HTML, JPG image formats). Note that Adobe Reader for Adobe PDF files is a freeware software tool which loads on almost every computer type and operating system current at the time of this documentation, and is downloadable off the company web site at <http://www.adobe.com>. Version numbers change as software is developed over time but the software company Adobe has a long history of backward compatibility with their own older software's data formats. Original geographic information system work uses software versions compatible with changes in ESRI software up through newer software ESRI ArcGIS9.3.1 service pack 2b and ESRI ArcGIS10.1 or 10.2x (see company details on the internet at <http://www.esri.com> for more information). Note that software developer company ESRI does provide freeware software tools called ESRI ArcGIS Online and ESRI ArcGIS Explorer, which load on almost every computer type and operating system current at the time of this documentation, and are downloadable off the company web site at <http://www.esri.com>. Version numbers change as software is developed over time but the software company ESRI has a long history of backward compatibility with their own older software's data formats.

(1.14) *Cross_Reference:* (not applicable)

Information about other related data sets may be available on the Department of Technology, Budget and Management (DTMB), at the Michigan Geographic Data Library (MGDL) website at <http://www.mcqi.state.mi.us/MGDL> and this internet location includes links to other State governmental archives for data beyond the MDNR and DTMB.

Section 2: Data Quality Information

(2.) *Data_Quality_Information:*

(2.1) *Attribute_Accuracy:*

(2.1.1) *Attribute_Accuracy_Report:*

The data consists of a single continuous multipoint polyline; there are no attributes other than those automatically generated by the ESRI ArcMap software for object ID, object type, and overall length. This dataset is derived as a review and update of its predecessor, the "2017 Deer Management Units" shapefile or set of files. The line-work runs along (follows) the approximate center of roads or other appropriate features as named in the specific legal text-definitions for the appropriate management units in the WCO (updated 11/2018). Using ESRI Best and the Michigan DOQQ 1998 leaf off imagery plus other small-scale data resources as reference basemaps, including the best at the time State County boundary layer, corrections to the 2017 data were made as per any changes for 2018 units and boundary lines were made to more closely follow the centerline of the roads or features present in the legal description. Screen digitization was done at display scale of 1:1,000. Attributes are tied to positional information in many situations (i.e. county road in a county extent) so such errors might be expected to be seen, noticed and corrected when base data corrected by DTMB and DNR during regular data management processes. Odd or anomaly values should have been noticed; best efforts were employed to create a usable and accurate data set, however there is possibility that some errors might exist. Checks for road or other feature names from the WCO text were done with Microsoft BING imagery or ESRI imagery, a cooperating data provider with the State of Michigan. Several informal tests, checks, and review steps were done on various parts of these data; however no specific tests were done on attribution data. Be aware, as is possible in all government

situations, other constraints may have been required and added since the compilation and completion of this metadata summary file.

(2.1.2) Quantitative_Attribute_Accuracy_Assessment:

(2.1.2.1) Attribute_Accuracy_Value: unknown

(2.1.2.2) Attribute_Accuracy_Explanation:

No specific and exhaustive quantitative tests were done on all tabular data for tests of valid values, general tests for tabular data, general tests for geographic data, specific topological tests, or other rigorous testing for quality check and assurance measures. Every effort has been made to provide users the best information, including in these metadata details; however, updated data and metadata information may have changes.

Due to the many internal staff involved in the data development of the 2018 layer, it's expected that the attribute confidence is rather high and data accurate.

(2.2) Logical_Consistency_Report:

Logical consistency follows best efforts for these as-is data. These data are intended for geographic display and analysis at or above qualitatively a city block level (~500 feet wide), county and state level, and should be compatible and consistent with 1:24,000 scale digital GIS datasets. These data used and/or were derived from multiple layers which should be National Mapping Accuracy Standard (NMAS; see USGS online at <http://www.usgs.gov>) for 1:24,000 scale at +/- 40 feet with USGS sited photo check points +/-16.6 feet or combination +/- 56.6 feet; therefore anticipation is common usage data should be within at worst case +/- 113.2 feet per set or a 226.4 foot bubble. So the estimate of qualitative reliance on a 500 foot bubble representing a "city block" (or +/- 250 feet) should be a reasonable approximation.

These data are a combination of multi-generational projects which may have been done with slightly different methodology details for the collected observational data (see the rest of these metadata comments for additional relevant details). No responsibility is assumed by the Michigan Department of Natural Resources (MDNR) in the use of these data. Deductive estimates based on experience with these data, professional expertise and more, suggest these data are reasonably useful for the scale described (above) in geospatial comparison at similar levels and while taking all user notices, warnings and caveats into consideration. Professional expert source for this estimate should be M. Strong, cited as distribution contact for this data set.

Several informal tests, check queries, and review steps were done on various parts of these data; however no specific and exhaustive quantitative tests were done on all attribution or tabular data for tests of valid values, general tests for tabular data, general tests for geographic data, specific topological tests, or other rigorous testing for quality check and assurance measures. Attributes are tied to positional information in many situations (i.e. county road in a county extent) so such errors might be expected to be seen, noticed and corrected. Odd or anomaly values should have been noticed; best efforts were employed to create a usable and accurate data set, however there is possibility that some errors might be in the attribution.

(2.3) Completeness_Report:

Completeness was not tested; however, best efforts were employed to create a usable and accurate data set. Data appears, upon working comparison with other layers, to geographically associate well, be positionally close or accurate, and because these data do not exist in other formats (this is the only layer) it is the best data we have for use.

Data were visually compared to high-resolution small-scale detailed aerial imagery while doing data creation, checking and later use with other data. Because the final data very closely matches various detailed aerial image data resources, it's expected that these data are qualitatively accurate even if no quantitative testing or assessments were done.

These data are intended for geographic display and analysis at or above qualitatively a city block level (~500 feet wide), county and state level, and should be compatible and

consistent with 1:24,000 scale digital GIS datasets. These data used and/or were derived from multiple layers which should be National Mapping Accuracy Standard (NMAS; see USGS online at <http://www.usgs.gov>) for 1:24,000 scale at +/- 40 feet with USGS sited photo check points +/- 16.6 feet or combination +/- 56.6 feet; therefore anticipation is common usage data should be within at worst case +/- 113.2 feet per set or a 226.4 foot bubble, so our estimate of qualitative reliance on a 500 foot bubble representing a “city block” (or +/- 250 feet) should be a reasonable approximation.

These data are a combination of multi-generational projects which may have been done with slightly different methodology details for the collected observational data (see the rest of these metadata comments for additional relevant details). No responsibility is assumed by the MDNR in the use of these data. Deductive estimates based on experience with these data, professional expertise and more, suggest these data are reasonably useful for the scale described (above) in geospatial comparison at similar levels and while taking all user notices, warnings and caveats into consideration. Professional expert source for this estimate should be M. Strong, cited as distribution contact for this data set.

(2.4.) Positional_Accuracy:

(2.4.1) Horizontal_Positional_Accuracy:

(2.4.1.1) Horizontal_Positional_Accuracy_Report:

Horizontal positional accuracy was not actually tested, but deductive estimates can be made based on experience with these data, professional expertise and more, suggest these data are reasonably useful for the scale described (above) in geospatial comparison at similar levels and while taking all user notices, warnings and caveats into consideration. Professional expert source for this estimate should be M. Strong, cited as distribution contact for this data set. Horizontal positional accuracy is based on the accuracy of the digital Public Land Survey System (township/range) and USGS (online at <http://www.usgs.gov>) 1:24,000 coverages of data wherein USGS cites National Mapping Accuracy Standard compliance (NMAS; see USGS online at <http://www.usgs.gov>) for 1:24,000 scale at +/- 40 feet with USGS sited photo check points +/-16.6 feet or combination +/- 56.6 feet, or a bubble of 113.2 feet wide. These data are intended for geographic display and analysis at or above qualitatively a city block level (~500 feet wide), county and state level, and should be compatible and consistent with 1:24,000 scale digital GIS datasets. These data used and/or were derived from multiple layers which should be National Mapping Accuracy Standard (NMAS; see USGS online at <http://www.usgs.gov>) for 1:24,000 scale at +/- 40 feet with USGS sited photo check points +/-16.6 feet or combination +/- 56.6 feet; therefore anticipation is common usage data should be within at worst case +/- 113.2 feet per set or a 226.4 foot bubble. So the estimate of qualitative reliance on a 500 foot bubble representing a “city block” (or +/- 250 feet) should be a reasonable approximation.

(2.4.1.2) Quantitative_Horizontal_Positional_Accuracy_Assessment:

(2.4.1.2.1) Horizontal_Positional_Accuracy_Value: plus or minus 76.2 meters (or +/-250 feet)

(2.4.1.2.2) Horizontal_Positional_Accuracy_Explanation:

The horizontal position accuracy value estimate for this project was calculated using National Mapping Accuracy Standards (NMAS) and compliance statement information for geospatial data used within this project, with the FGDC guidelines for calculating accuracy based on NMAS; using 1:24,000 scale data this results in an estimate of positional accuracy estimates of within plus or minus 21.95 meters (or +/- 72 feet). However, concerns of over-representing the positional accuracies of

these data cause recommendation to handle these as more like 1:100,000 scale data, which results in calculated estimate (same FGDC calculation methods) of positional accuracy estimates of within plus or minus 109.7 meters (or +/- 360 feet). This revision is because ultimately the observational data collected on the ground by volunteers is of untested scale, and although observers may think they are close, recommendation at the next higher level of standard map products does provide a more conservative representation of accuracies for position.

(2.4.2) Vertical_Positional_Accuracy:

(2.4.2.1) Vertical_Positional_Accuracy_Report: (not applicable)

Vertical accuracy was not tested as there is no interpreted vertical component (altitude) to this data set.

(2.4.2.2) Quantitative_Vertical_Positional_Accuracy_Assessment: (not applicable)

(2.5) Lineage: (not applicable)

Lineage, methodology, and sources are complicated; and not described in great detail within this basic summary for these as-is data. The official and legal management unit boundaries are text definitions (and not any GIS data) provided within the Michigan Wildlife Conservation Order (updated 09/16/2015), which is available online at www.michigan.gov/dnr/laws or contact the nearest MDNR Customer Service Center. Data Lineage and Process Contact is the Data Distribution Contact listed in Section 6.1.

(2.6) Cloud_Cover: (not applicable)

Section 3. Spatial Data Organization Information

(3.) Spatial_Data_Organization_Information:

(3.1) Indirect_Spatial_Reference: Michigan Department of Natural Resources (MDNR) wildlife management unit data

(3.2) Direct_Spatial_Reference_Method: vector

(3.3) Point_and_Vector_Object_Information:

(3.3.1) SDTS_Terms_Description:

(3.3.1.1) SDTS_Point_and_Vector_Object_Type: complete chain

(3.3.1.2) SDTS_Point_and_Vector_Object_Count: one

(3.3.2) VPF_Terms_Description:

(3.3.2.1) VPF_Topology_Level: 2 (see MIL-STD-2407, p37)

(3.3.2.2) VPF_Point_and_Vector_Object_Information:

(3.3.2.2.1) VPF_Point_and_Vector_Object_Type: edge

Spatial_Data_Organization_Comment:

Data is in vector-based system for lines and polygon coverage, using ESRI's ArcInfo software or ArcView software compatible format (as exported shapefile). Information details about ESRI software can be found on the internet at <http://www.esri.com>, where a GIS file reader (ArcReader software) can be downloaded for free to allow you/users to view this data set.

(3.4) Raster_Object_Information: (not applicable for vector data)

Section 4. Spatial Reference Information

(4.) Spatial_Reference_Information:

(4.1) Horizontal_Coordinate_System_Definition:

(4.1.1) Geographic: (not applicable)

(4.1.2) Planar:

(4.1.2.1) Map_Projection:

(4.1.2.1.1) Map_Projection_Name: Oblique Mercator

(also know as Hotine_Oblique_Mercator_Azimuth_Natural_Origin or NAD_1983_Hotine_Oblique_Mercator_Azimuth_Natural_Origin)

(4.1.2.1.13) *Oblique_Mercator*:

(4.1.2.1.23) *Map_Projection_Parameters*: (assembled in FDGC order)

(4.1.2.1.23.10) *Scale_Factor_at_Center_Line*: 0.9996

(4.1.2.1.23.11) *Oblique_Line_Azimuth*:

(4.1.2.1.23.11.1) *Azimuthal_Angle*: 337.25556

(4.1.2.1.23.11.2) *Azimuth_Measure_Point_Longitude*:
-86.00000000

(4.1.2.1.23.3) *Latitude_of_Projection_Origin*: 45.30916667

(4.1.2.1.23.4) *False_Easting*: 2546731.496

(4.1.2.1.23.5) *False_Northing*: -4354009.816

Map_Projection_Comments:

These data use the Michigan Geographic Reference Projection (MGR). Additional detailed specifications, graphics, and discussion of this projection are available online from the Michigan Geographic Data Library, under the "Map Projections" link at

<http://www.mcqi.state.mi.us/mgdl/>.

(4.1.2.2) *Grid_Coordinate_System*: (not applicable)

(4.1.2.3) *Local_Planar*: (not applicable)

(4.1.2.4) *Planar_Coordinate_Information*:

(4.1.2.4.1) *Planar_Coordinate_Encoding_Method*: coordinate pair

(4.1.2.4.2) *Coordinate_Representation*:

(4.1.2.4.2.1) *Abscissa_Resolution*: 0.002048

(4.1.2.4.2.2) *Ordinate_Resolution*: 0.002048

(4.1.2.4.3) *Distance_and_Bearing_Representation*: (not applicable)

(4.1.2.4.4) *Planar_Distance_Units*: meters

(4.1.3) *Local*: (not applicable)

(4.1.4) *Geodetic_Model*:

(4.1.4.1) *Horizontal_Datum_Name*: North American Datum of 1983 (NAD83);

Geographic Coordinate System: GCS North American 1983;

Prime Meridian: Greenwich (0.0);

Angular Unit: Degree (0.0174532925199433).

(4.1.4.2) *Ellipsoid_Name*: spheroid: Geodetic Reference System 80 (GRS_1980)

(4.1.4.3) *Semi-major_Axis*: 6378137.000000

Semi-minor_Axis: 6356752.314140356

(4.1.4.4) *Denominator_of_Flattening_Ratio*: Inverse Flattening: 298.257222

Geodetic_Model_Comments:

These data use the Michigan Geographic Reference Projection (MGR). Additional detailed specifications, graphics, and discussion of this projection, are available from the Michigan Geographic Data Library, online at <http://www.mcqi.state.mi.us/mgdl/> under the "Map Projections" link.

(4.2) *Vertical_Coordinate_System_Definition*: (not applicable; no vertical component to the data set)

Section 5. Entity and Attribute Information

(5.) *Entity_and_Attribute_Information*:

(5.1) *Detailed_Descriptiton*:

(5.1.1) *Entity_Type*:

(5.1.1.1) *Entity_Type_Label*: Michigan Department of Natural Resources (MDNR) management unit data

- (5.1.1.2) *Entity_Type_Definition*: The official and legal MDNR wildlife management unit zones and the lines separating these zones are text definitions (and not any GIS data) provided within the Michigan Wildlife Conservation Order (updated 11/2018), which is available online at www.michigan.gov/dnr/laws.
- (5.1.1.3) *Entity_Type_Definition_Source*: MDNR Wildlife Division WCO (updated 11/2018)
- (5.1.2) *Attribute*:
 - (5.1.2.1) *Attribute_Label*: OBJECTID
 - (5.1.2.2) *Attribute_Definition*: numeric field containing a unique integer that identifies each object in the data set; field generated by default and maintained by ArcGIS
 - (5.1.2.3) *Attribute_Definition_Source*: ESRI, ArcGIS Desktop
 - (5.1.2.4) *Attribute_Domain_Values*:
 - (5.1.2.4.2) *Range_Domain*:
 - (5.1.2.4.2.1) *Range_Domain_Minimum*: integer >0
 - (5.1.2.4.2.2) *Range_Domain_Maximum*: none
 - (5.1.2.5) *Attribute_Units_of_Measure*: (not applicable)
 - (5.1.2.6) *Attribute_Measurement_Resolution*: (not applicable)
 - (5.1.2.7) *Beginning_Date_of_Attribute_Values*: publication date
 - (5.1.2.8) *Ending_Date_of_Attribute_Values*: last update of the dataset
 - (5.1.2.9) *Attribute_Value_Accuracy_Information*: (see Sec. 2.3 Completeness_Report)
 - (5.1.2.10) *Attribute_Measurement_Frequency*: none planned
- (5.1.3) *Attribute*:
 - (5.1.3.1) *Attribute_Label*: Shape
 - (5.1.3.2) *Attribute_Definition*: text field containing the geometry type of vector data for the ArcGIS feature class; field generated by default and maintained by ArcGIS
 - (5.1.3.3) *Attribute_Definition_Source*: ESRI, ArcGIS Desktop
 - (5.1.3.4) *Attribute_Domain_Values*:
 - (5.1.3.4.1) *Enumerated_Domain*:
 - (5.1.3.4.1.1) *Enumerated_Domain_Value*: "Polyline"
 - (5.1.3.4.1.2) *Enumerated_Domain_Value_Definition*: a shape defined by an ordered collection of one or more paths, in which the path is a series of connected segments; it optionally has measure, height and ID attributes
 - (5.1.3.4.1.3) *Enumerated_Domain_Value_Definition_Source*: ESRI, ArcGIS Desktop
 - (5.1.3.5) *Attribute_Units_of_Measure*: (not applicable)
 - (5.1.3.6) *Attribute_Measurement_Resolution*: (not applicable)
 - (5.1.3.7) *Beginning_Date_of_Attribute_Values*: publication date
 - (5.1.3.8) *Ending_Date_of_Attribute_Values*: last update of the dataset
 - (5.1.3.9) *Attribute_Value_Accuracy_Information*: (see Sec. 2.3 Completeness_Report)
 - (5.1.3.10) *Attribute_Measurement_Frequency*: none planned
- (5.1.4) *Attribute*:
 - (5.1.4.1) *Attribute_Label*: Shape_Length
 - (5.1.4.2) *Attribute_Definition*: numeric field containing the length of the polyline; field generated by default and maintained by ArcGIS
These data are not user-editable or user-managed data but set and controlled by the software with any changes as the result of edits completing the x,y coordinate pairs within the software.
 - (5.1.4.3) *Attribute_Definition_Source*: ESRI, ArcGIS Desktop
 - (5.1.4.4) *Attribute_Domain_Values*:
 - (5.1.5.4.2) *Range_Domain*:

- (5.1.5.4.2.1) *Range_Domain_Minimum*: >0
- (5.1.5.4.2.2) *Range_Domain_Maximum*: none
- (5.1.4.5) *Attribute_Units_of_Measure*: meters
- (5.1.4.6) *Attribute_Measurement_Resolution*: (not applicable)
- (5.1.4.7) *Beginning_Date_of_Attribute_Values*: publication date
- (5.1.4.8) *Ending_Date_of_Attribute_Values*: last update of the dataset
- (5.1.4.9) *Attribute_Value_Accuracy_Information*: (see Sec. 2.3 Completeness_Report)
- (5.1.4.10) *Attribute_Measurement_Frequency*: none planned

... plus includes other fields, which should be obvious based on field name and contents ...

Section 6. Distribution Information

(6.) *Distribution_Information*:

(6.1) *Distributor = Contact_Information in Section 10*:

(6.1.1) *Contact_Person_Primary*:

(6.1.1.1) *Contact_Person*: Mapping and Geotechnology Program Specialist, currently filled by M. Strong (however, recommend checking the contact position and contact organization, listed below in Sec. 6.1.3, in case details are different)

(6.1.1.2) *Contact_Organization*: State of Michigan, Department of Natural Resources (MDNR), Wildlife Division

(6.1.2) *Contact_Organization_Primary*: State of Michigan, Department of Natural Resources (MDNR), Wildlife Division

(6.1.3) *Contact_Position*: Mapping and Geotechnology Program Specialist, currently filled by M. Strong

(6.1.4) *Contact_Address*:

(6.1.4.1) *Address_Type*: mailing address

(6.1.4.2) *Address*: PO Box 30444

(6.1.4.3) *City*: Lansing

(6.1.4.4) *State_or_Province*: MI

(6.1.4.5) *Postal_Code*: 48909-7944

(6.1.4.6) *Country*: United States of America

(6.1.5) *Contact_Voice_Telephone*: 1-517-284-WILD (1-517-284-9453)

(6.1.5b) *Contact_Voice_Telephone (direct line)*: 1-517-256-5397

(6.1.6) *Contact_TDD/TTY_Telephone*: 711 (Michigan Relay Center)

(6.1.7) *Contact_Facsimile_Telephone*: 1-517-241-0015

(6.1.8) *Contact_Electronic_Mail_Address*: DNR-Wildlife@michigan.gov

Those interested can also see the MDNR website online at <http://www.michigan.gov/dnr> for more information and to contact Division using additional, current electronic methods.

(6.1.8b) *Contact_Electronic_Mail_Address (person direct)*: strongm@michigan.gov

(6.1.9) *Contact_Hours_of_Service*: recommended: GMT 12noon to 8pm or United States' Eastern Standard Time 8am to 5pm

(6.1.10) *Contact_Instructions*: No significant instructions, other than:

(i.) please have patience as may take a couple days to reply back to questions, depending on those methods used (email, etc.) to contact our organization;

(ii.) please refer to this data set by its proper title if you can or a complete description, along with any other relevant details (like publication date), in any message or with questions.

(6.2) *Resource_Description*: (recommend using the information from Section 1 to identify these data)

(6.3) *Distribution_Liability*:

The user is responsible for reading and comprehending all portions of these metadata before using any of the companion data. Any use of these data signifies a user's: (a.) understanding of all stated warnings, disclaimers, and notices; and (b.) agreement to comply with all stated constraints in these metadata/data. The Michigan Department of Natural Resources (MDNR) provides these metadata and companion data without any express or implied warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose. The State of Michigan, the MDNR nor any employees shall not be held liable for improper or incorrect use of these data, and these data are not intended for legal use. The MDNR reserves all rights, copyrights, as appropriate as the steward for these data for the public trust; these data may not be repackaged or sold. The information contained in these data may have changed since the dataset was last updated. Newer versions of these data may be available on an irregular schedule and the dataset may be updated without notice; however that statement does not mean these metadata or data will ever be changed again (rather that the possibility is always reserved). For more information, communicate with the contact person listed in this metadata file for these data. Do not pass these data to other users; instead, direct other users seeking these metadata or companion data to the contact person listed in this metadata file or the provided data access and download location.

There are other warnings, disclaimers and notifications prepared for possible end users of these metadata and companion data – make sure you read all the provided information, to avoid causing yourself problems related to these data. Some statements may be repeated, as they are appropriate content for blocks in a specific metadata format being used to document the project information and the companion data set. Metadata formats help create similar notice blocks for communicating information to potential end users, and these metadata have been written for both those inexperienced with technical documentation and those familiar with the standard format used for these metadata or data packaging. Make sure you read Section 1.7 Access Constraints and Section 1.8 Use Constraints for directly relevant details impacting users.

(6.4) *Standard_Order_Process:*

(6.4.1) *Non-Digital_Form:* (not applicable, this is only a digital data set)

(6.4.2) *Digital_Form:*

(6.4.2.1) *Digital_Transfer_Information:*

(6.4.2.1.1) *Format_Name:* ZIP (WinZIP)

(6.4.2.1.2) *Format_Version_Number:* 10.0 (10.0.6685)

(6.4.2.1.3) *Format_Version_Date:* 2005

(6.4.2.1.4) *Format_Specification:*

Details on the format and WinZIP utility are online at the manufacturer's website on the internet at <http://www.winzip.com> , email support@winzip.com , WinZIP International LLC, at postal address PO Box 540, Mansfield, CT 06268 USA. Every effort is made to use a common and quality data packing product; in this case, WinZIP and the ZIP file format are very common and should be able to be unpacked or decompressed by several possible utilities including free software available online. WinZIP International LLC also provides a for free, evaluation copy of the latest software (newer than the version used to back these data), which installs on a wide variety of computers and operating systems.

(6.4.2.1.5) *Format_Information_Content:* various project files in standard formats, and explained in a "readme" text file compressed with those files

(6.4.2.1.6) *Format_File_Decompression_Technique:* Use WinZIP or compatible software utility. See the comments under Section 6.4.2.1.4 Format

Specifications for more information and lead to reach the WinZIP company.

(6.4.2.1.7) *Transfer_Size*: <unknown at this time, 11/20/2018 -M.Strong>

However if the file is converted or exported for a special request, the file size can change; expect it to be “small” compared to the average GIS data layer size.

(6.4.2.2) *Digital_Transfer_Option*:

(6.4.2.2.1) *Online_Option*:

(6.4.2.2.1.1) *Computer_Contact_Information*:

(6.4.2.2.1.1.1) *Network_Address*: Data layer can be requested; however plans are for it to be moved to and accessible via the Michigan DNR Open Data Portal (an ESRI compatible data server system) at <http://www.michigan.gov/dnrmaps> or <http://gis/midnr/opendata.argis.com>, then look for the layer in the provided data, it may be listed under “hunting” or “wildlife” related data.

(6.4.2.2.1.1.1.1) *Network_Resource_Name*: <unspecified at this moment 11/20/2018 -M.Strong>

Network_Resource_Instructions: Plans are for the data to be moved to and accessible via the Michigan DNR Open Data Portal (an ESRI compatible data server system) at <http://www.michigan.gov/dnrmaps> or <http://gis/midnr/opendata.argis.com>, then look for the layer in the provided data, it may be listed under “hunting” or “wildlife” related data. Using an internet browser to connect to location, access as read-only data via the online computer options discussed above, then click on file or listing for the layer (which may provide a shapefile as .shp, or other file formats), then download it when asked; otherwise right-click on the file and say download. The DNR Open Data Portal also has a listing for a help contact, if needed.

(6.4.2.2.1.1.2) *Dial-up_Instructions*: (not applicable)

(6.4.2.2.1.2) *Access_Instructions*: Use own internet browser to connect as read-only to the online computer options discussed above.

(6.4.2.2.1.3) *Online_Computer_and_Operating_System*: Computer details will not be provided here for network security concerns; however, those details should not be needed because the online system is a dedicated internet server which is maintained for backward compatibility with HTTP communication protocols, and should be flexible to both older and newer connection versions plus various browser software and various operating systems.

(6.4.2.2.2) *Offline_Option*: Offline options are limited and will have to be discussed as a custom order process (see Section 6.5) with contacts.

(6.4.3) *Fees*: see Custom Order Process in Section 6.5

(6.4.4) *Ordering_Instructions*: see Custom Order Process in Section 6.5

(6.4.5) *Turnaround*: no set timeframe has been established or can be anticipated

Please have patience as may take a couple days to reply back to questions, depending on those methods used (email, etc.) to contact our organization.

(6.5) *Custom_Order_Porcess*: Custom order options are very limited. Anyone interested in such should first try using the online method. After that, if online method is not possible, contact the following Contact Person and discuss possible offline request options. Note that there may be a fee or requestor may be required to provide media for any offline option.

(6.5.1) *Contact_Person_Primary = Contact_Information in Section 10*:

(6.5.1.1) *Contact_Person*: Mapping and Geotechnology Program Specialist, currently M. Strong (however, recommend using the contact position and contact organization, listed below in Section 6.5.3)

(6.5.1.2) *Contact_Organization*: State of Michigan, Department of Natural Resources (MDNR), Wildlife Division

(6.5.2) *Contact_Organization_Primary*: State of Michigan, Department of Natural Resources (MDNR), Wildlife Division

(6.5.3) *Contact_Position*: MDNR Wildlife Division's Mapping and Geotechnology Program Specialist, currently filled by M. Strong

(6.5.4) *Contact_Address*:

(6.5.4.1) *Address_Type*: mailing address

(6.5.4.2) *Address*: PO Box 30444

(6.5.4.3) *City*: Lansing

(6.5.4.4) *State_or_Province*: MI

(6.5.4.5) *Postal_Code*: 48909-7944

(6.5.4.6) *Country*: United State of America

(6.5.5) *Contact_Voice_Telephone*: 1-517-284-WILD (9453)

(6.5.5b) *Contact_Voice_Telephone (direct line)*: 1-517-256-5397

(6.5.6) *Contact_TDD/TTY_Telephone*: 711 (Michigan Relay Center)

(6.5.7) *Contact_Facsimile_Telephone*: 1-517-241-0015

(6.5.8) *Contact_Electronic_Mail_Address*: DNR-Wildlife@michigan.gov

Those interested can also see the MDNR website online at <http://www.michigan.gov/dnr> for more information and to contact Division using additional, current electronic methods.

(6.5.8b) *Contact_Electronic_Mail_Address (person direct)*: strongm@michigan.gov

(6.5.9) *Contact_Hours_of_Service*: recommended: GMT 12noon to 8pm or United States' Eastern Standard Time 8am to 5pm

(6.5.10) *Contact_Instructions*: No significant instructions, other than:

(i.) please have patience as may take a couple days to reply back to questions, depending on those methods used (email, etc.) to contact our organization;

(ii.) please refer to this data set by its proper title or by more complete description of the data set along with any other relevant details (like publication date), in any message or with questions.

(6.6) *Technical_Prerequisites*:

Technical prerequisites are multifold, as this is a complex data set with several resources. The packaged data includes both tabular and GIS data. A prepared user should have the available software as discussed below, and should have enough skill and experience to use the software and compatible data packaged and described within this documentation/metadata.

The final data set developed on and compatible with (i.) IBM-format compatible computer; (ii.) operating system for Microsoft Windows version XP Professional and version 2000 for servers (from 1993-2006; see company details on the internet at <http://www.microsoft.com> for more information) and Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3; Esri ArcGIS 10.1.0.3035; (iii.) database management software Microsoft Windows Office 2003 Access program, build 11.8321.8341, service pack 3 (from 1992-2003; see company details on the internet at <http://www.microsoft.com> for more information) and should be compatible with newer database management software Microsoft Windows Office

2010 Access program; (iv.) geographic information system software ESRI ArcGIS9.3.1 service pack 2b and ESRI ArcGIS10.1 (see company details on the internet at <http://www.esri.com> for more information); (v.) documentation was done using software Microsoft Windows Office 2003 Access program, build 11.8321.8341, service pack 3 (from 1992-2003; see company details on the internet at <http://www.microsoft.com> for more information) and the documentation was converted to be compatible with Adobe PDF format (see company details on the internet at <http://www.adobe.com> for more information); with (vi.) any other provided files with the compiled data set being compatible with plain ASCII text viewer formats or internet browser formats (i.e. txt, HTML, JPG image formats). Note that Adobe Reader for Adobe PDF files is a for-free software tool which loads on almost every computer type and operating current at time of this documentation, and is downloadable off the company details on the internet at <http://www.adobe.com> ; version numbers change as software developed over time but software company Adobe has long history of backward compatibility with their own older software's data formats.

(6.7) *Available_Time_Period*: publication date

Section 7. Metadata Reference Information

(7.) *Metadata_Reference_Information*

Metadata_Reference_Information_Comment:

Additional information about metadata standards used can be found online at the Michigan Department of Technology, Management and Budget (DTMB) Center for Shared Solutions Geographic Information Standards web page <http://www.michigan.gov/cgij/> under the "Geographic Metadata" link or at the new DTMB State-wide site <http://www.michigan.gov/maps> .

(7.1) *Metadata_Date*: <full pending; this information is 11/20/2018>

(7.2) *Metadata_Review_Date*: none scheduled; will be reviewed if the data is updated

(7.3) *Metadata_Future_Review_Date*: none scheduled

(7.4) *Metadata_Contact*: (recommend using the contact position and contact organization, listed in Section 6.1.3)

(7.5) *Metadate_Standard_Name*: FGDC Content Standard for Digital Geospatial Metadata with National Biological Information Initiative (NBII) Part 1 Biological Data Profile (when applicable)

(7.6) *Metadata_Standard_Version*: FGDC-STD-001-1998, Version 2.0. NBII Part 1 Biological Data Profile, FGDC-STD-001.1-1999

(7.7) *Metadata_Time_Convention*: recommended: Greenwich Mean Time (GMT), or United States' Eastern Standard Time

(7.8) *Metadata_Access_Constraints*: refer to Section 1.7 Access Constraints

(7.9) *Metadata_Use_Constraints*: refer to Section 1.8 Use Constraints

(7.10) *Metadata_Security_Information*: (not applicable)

Not applicable as there are no access, use, or handling restrictions imposed on the metadata because of national security, privacy, or other concerns appropriate to limit metadata access/use, or to define in this portion of the metadata.

(7.11) *Metadata_Extensions*: (not applicable)

Supplemental Information

<none, yet>

(end-of-file)